

CLAIM SUMMARY DOCUMENT:

Claim 1 (Currently amended) An isolated polynucleotide encoding an anthocyanin acyltransferase, wherein said acyltransferase transfers an aromatic acyl group to the glucose of the 3 or 5 position of anthocyanin.

Claim 2 (Currently amended) The polynucleotide according to claim 1 produced by the process of cloning using as a primer a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 21.

Claim 3 (Currently amended) The polynucleotide according to claim 2 wherein said primer has the nucleotide sequence of SEQ ID NO: 22.

Claim 4 (Previously canceled)

Claim 5 (Currently amended) The polynucleotide according to claim 1 encoding a protein, which polynucleotide hybridizes with a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 21 or all of the nucleotide sequence encoding any of the amino acid sequences of SEQ ID NO: NOS: 1 to 6 under the condition of 5 x SSC and 50°C, and which protein transfers an aromatic acyl group to flavonoid.

Claim 6 (Currently amended) The polynucleotide according to claim 1 encoding a protein, which polynucleotide hybridizes with a nucleotide sequence encoding the amino acid sequence of SEQ ID NO: 21 or all of the nucleotide sequence encoding any of the amino acid sequences of SEQ ID NO: NOS: 1 to 6 under the condition of 2 x SSC and 50°C and which protein transfers an aromatic acyl group to flavonoid.

Claim 7 (Currently amended) The polynucleotide according to claim 1 encoding a protein which consists of an amino acid sequence which is at least 30% homologous to any one of the amino acid sequences of SEQ ID No. N0s: 1 to 6, and which transfers an aromatic acyl group to flavonoid.

Claim 8 (Currently amended) The polynucleotide according to claim 1 encoding a protein which has an amino acid sequence having a homology of at least 69% with any of the amino acid sequences of SEQ ID No. N0s: 1 to 6, and which transfers an aromatic acyl group to flavonoid.

Claim 9 (Previously amended) A vector comprising a polynucleotide according to claim 1.

Claim 10 (Previously amended) A host cell transformed with a vector according to claim 9.

Claim 11 (Previously amended) A host cell according to claim 10 wherein said host is a microbial or animal cell.

Claim 12 (Previously amended) A host cell according to claim 10 wherein said host is a plant cell or a plant body.

Claims 13-19 (Previously canceled)

Claim 20 (Previously amended) A method for acylating a pigment in a plant, comprising introducing a polynucleotide according to claim 1 into the plant, whereby said polynucleotide expresses a protein, and said protein acylates the pigment in the plant.

Claim 21 (Previously canceled)

Claim 22 (Previously amended) A method for stabilizing a pigment in a plant, comprising introducing the polynucleotide according to claim 1 into a plant, whereby said polynucleotide expresses a protein, and said protein acylates the pigment in the plant, which acylation stabilizes said pigment in the plant.

Claim 23 (Previously amended) A method for altering the color of flowers, comprising introducing the polynucleotide according to claim 1 into a plant, whereby said polynucleotide expresses a protein, and said protein acylates the pigment in the plant, which acylation alters the color of flowers of said plant.

Claim 24 (Previously amended) The method according to claim 20 wherein the pigment is anthocyanin.

Claim 25 (Previously amended) A plant, a progeny or tissues thereof, each of whose color has been altered by introducing thereinto a polynucleotide according to claim 1.

Claim 26 (Original) The plant tissue according to claim 25 wherein said tissue is a flower.

Claim 27 (Previously amended) A cut flower of the plant or the plants progeny according to claim 25.

Claim 28 (Currently amended) An isolated polynucleotide encoding an anthocyanin acyltransferase, which polynucleotide encodes an amino acid sequence selected from the group consisting of the amino acid sequences as set forth in SEQ ID No. NOS: 1 to 6, or hybridizes with a nucleotide sequence complementary to a nucleotide sequence selected from the group consisting of the nucleotide sequences encoding the amino acid sequences

as set forth in SEQ ID No. NOs: 1 to 6 under the condition of 5 x SSC and 50°C or the condition of 2 x SSC and 50°C, and which anthocyanin acyltransferase transfers an aromatic acyl group to flavonoid.

Claim 29 (Previously amended) A vector comprising a polynucleotide according to claim 28.

Claim 30 (Previously amended) A host cell transformed with a vector according to claim 29.

Claim 31 (Previously amended) A host cell according to claim 30 wherein said host is a microbial or animal cell.

Claim 32 (Previously amended) A host cell according to claim 30 wherein said host is a plant cell or a plant body.

Claim 33 (Previously amended) A method for acylating a pigment in a plant, comprising introducing a polynucleotide according to claim 28 into the plant, whereby said polynucleotide expresses a protein, and said protein acylates the pigment in the plant.

Claim 34 (Previously amended) A method for stabilizing a pigment in a plant, comprising introducing the polynucleotide according to claim 28 into a plant, whereby said polynucleotide expresses a protein, and said protein acylates the pigment in the plant, which acylation stabilizes said pigment in the plant.

Claim 35 (Previously amended) A method for altering the color of flowers, comprising introducing the polynucleotide according to claim 28 into a plant, whereby said

polynucleotide expresses a protein, and said protein acylates the pigment in the plant, which alters the color of flowers of said plant.

Claim 36 (Previously amended) A plant, a progeny or tissues thereof, each of whose color has been altered by introducing thereinto a polynucleotide according to claim 28.

Claim 37 (Previously added) The plant tissue according to claim 36 wherein said tissue is a flower.

Claim 38 (Previously added) A cut flower of the plant according to claim 36 or its progeny having the same property.

Claim 39 (Previously added) The method according to claim 33, wherein the pigment is anthocyanin.

Claim 40 (Previously added) The method according to claim 34, wherein the pigment is anthocyanin.

Claim 41 (Previously added) The method according to claim 35, wherein the pigment is anthocyanin.

Claims 42-45 (Previously canceled)

Claim 46 (Previously amended) The polynucleotide according to claim 1, wherein the anthocyanin acyltransferase transfers an aromatic acyl group to the glucose of the 3 or 5 position of anthocyanin.

Claim 47 (Previously amended) The polynucleotide according to claim 2, wherein the polynucleotide encodes an anthocyanin acyltransferase which transfers an aromatic acyl group to the glucose at the 3 or 5 position of anthocyanin.

Claim 48 (Previously amended) The polynucleotide according to claim 5, wherein the anthocyanin acyltransferase transfers an aromatic acyl group to the glucose at the 3 or 5 position of anthocyanin.

Claim 49 (Previously amended) The polynucleotide according to claim 7, wherein the anthocyanin acyltransferase transfers an aromatic acyl group to the glucose at the 3 or 5 position of anthocyanin.

Claim 50 (Previously amended) The polynucleotide according to claim 8, wherein the anthocyanin acyltransferase transfers an aromatic acyl group to the glucose at the 3 or 5 position of anthocyanin.

Claim 51 (Previously amended) The polynucleotide according to claim 28, wherein the anthocyanin acyltransferase transfers an aromatic acyl group to the glucose at the 3 or 5 position of anthocyanin.

Claim 52 (Previously amended) The polynucleotide according to claim 28 42, wherein the polynucleotide encodes an anthocyanin acyltransferase which transfers an aromatic acyl group to the glucose at the 3 or 5 position of anthocyanin.

Claim 53 (Currently canceled)

Claim 54 (Currently amended) An isolated polynucleotide encoding an anthocyanin acyltransferase, which polynucleotide gene encodes an amino acid sequence selected from the group consisting of the amino acid sequences as set forth in SEQ ID No: NOs: 1 to 6.

Claim 55 (Currently amended) A vector comprising a polynucleotide according to claim 54 53.

Claim 56 (Previously added) A host transformed with a vector according to claim 55.

Claim 57 (Previously added) A host according to claim 56, wherein said host is a microbial or animal cell.

Claim 58 (Previously added) A host according to claim 56, wherein said host is a plant cell or a plant body.

Claim 59 (Previously added) A method for acylating a pigment in a plant, comprising introducing the polynucleotide according to claim 54 into a plant, whereby said gene expresses a protein, and said protein acylates the pigment in the plant, which alters the color of flowers of said plant.

Claim 60 (Previously added) A method for stabilizing a pigment in a plant, comprising introducing the polynucleotide according to claim 54 into a plant, whereby said gene expresses a protein, and said protein acylates the pigment in the plant, which stabilizes the pigment of said plant

Claim 61 (Previously added) A method for altering the color of flowers, comprising introducing the polynucleotide according to claim 54 into a plant, whereby said gene expresses a protein, and said protein acylates the pigment in the plant, which alters the color of flowers of said plant.

Claim 62 (Previously added) A plant whose color has been controlled by introducing thereinto a polynucleotide according to claim 54, or its progeny having the same property, or tissues thereof.

Claim 63 (Previously added) The plant tissue according to claim 62, wherein said tissue is a flower.

Claim 64 (Previously added) A cut flower of the plant according to claim 62 or its progeny having the same property.

Claim 65 (Previously added) The method according to claim 60, wherein the pigment is anthocyanin.

Claim ~~67~~ 66 (Currently amended) The method according to claim 61, wherein the pigment is anthocyanin.